

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An enclosed light source device, comprising: comprising:
an arc tube having a pair of main electrodes arranged on one electrode axis with leads of the main electrodes sealed with sealed portions; and
a reflector for reflecting an outgoing light emitted from the arc tube and emitting the reflected light to the front, the electrode axis of the main electrodes being arranged to cross an optical axis ~~a light axis~~ of the outgoing light,
~~wherein~~ the reflector being formed ~~is formed~~ of a metal substrate and being constructed ~~is constructed~~ so that a light source fitting space for holding the sealed portions of the arc tube in a manner that allows heat from the arc tube to be conducted to the reflector is formed, a first reflector portion being formed ~~formed~~ with a spherical surface centered at a light generation point of the arc tube is formed on a rear side from the arc tube as a boundary, a second reflector portion being formed ~~formed~~ with an ellipsoid formed ~~is formed~~ in front of the boundary of the arc tube, and the outgoing light emitted from the arc tube being reflected ~~is reflected~~ by the first and second reflector portions so that the reflected light reaches a predetermined condensed spot outside the reflector; and
a lens, provided inside the second reflector portion, that condenses all of the outgoing light not reflected by ~~emitted from the arc tube to other than the second reflector portion, such that and brings~~ the condensed outgoing light is directed to the predetermined condensed spot, and includes ~~and consists of~~ a glass material that will not deteriorate under a high-temperature atmosphere in a vicinity of the arc tube ~~is provided inside the second reflector portion.~~

2. (Previously Presented) The enclosed light source device according to Claim 1, wherein the lens is positioned so that a principal point thereof is located on the optical axis while a periphery of the lens is located at a position at which, of the outgoing light beams emitted forwards from the arc tube, the light beam illuminating a vicinity of an opening of the second reflector portion intersects the light beam that is reflected at an innermost position of the second reflector and brought to the condensed spot.

3.-4. (Cancelled)

5. (Previously Presented) The enclosed light source device according to Claim 1, wherein a luminance equalization means for equalizing a surface luminance of the light beams by shaping light that is emitted from the arc tube and reaches the condensed spot after reflection by the first reflector portion and the second reflector portion or after condensation by the lens, into a designated pattern and by mixing by multiple reflection is integrally provided at a front end of the reflector, forming an enclosed structure of the reflector.

6. (Previously Presented) The enclosed light source device according to Claim 1, wherein the reflector is formed of an aluminum substrate, a layer for converting an infrared component into heat is formed on a reflecting surfaces of the first reflector portion and the second reflector portion, a dielectric reflection multi-coating is formed over the layer for heat conversion with a flattening layer provided in-between, so that visible light rays reach the predetermined condensed spot.

7. (Previously Presented) The enclosed light source device according to Claim 5, wherein the luminance equalization means has a cylindrical configuration and is formed of a metal substrate of the same material as the reflector, and an interior side of the metal substrate of the luminance equalization means is formed with a layer for converting an infrared component into heat, a flattening layer on the layer for heat conversion and a dielectric reflection multi-coating over the flattening layer.

8. (Previously Presented) The enclosed light source device according to Claim 1, wherein sealed portions that seal the leads of the main electrodes are formed on both sides of the light generation point of the arc tube, and heat radiation members are arranged between the sealed portions and the reflector.

9. (Previously Presented) The enclosed light source device according to Claim 1, wherein the reflector has a separable structure such that it can be separated at a boundary containing the electrode axis of the arc tube into a first reflector part that forms the first reflector portion and a second reflector part that forms the second reflector portion, and a light source fitting groove in which the sealed portions of the arc tube are arranged is formed in a separated face of the separable structure.

10. (Previously Presented) The enclosed light source device according to Claim 1, wherein the reflector has a separable structure such that it can be separated along a plane parallel to the optical axis.

11. (Previously Presented) The enclosed light source device according to Claim 8, wherein the reflector is grounded and an annular auxiliary electrode that encloses a proximal end side of the sealed portion of the arc tube is provided and the auxiliary electrode is electrically connected to the reflector.

12. (Currently Amended) A video display apparatus, comprising: ~~in which~~ the enclosed light source device according to Claim 1 ~~is used~~.